

substance: titanium oxide (TiO₂)

property: elastic moduli, Debye temperature in rutile

elastic moduli

(in 10¹² dyn cm⁻²)

c_{11}	2.660(66)		62W
	2.674(2)		76G
c_{12}	1.733(71)		62W
	1.808(37)		76G
c_{13}	1.362(81)		62W
	1.466(29)		76G
c_{33}	4.699(81)		62W
	4.790(2)		76G
c_{44}	1.239(57)	for temperature dependence of c_{44} , see [79R]	62W
	1.238(8)		76G
c_{66}	1.886(50)		62W
	1.894(15)		76G

Debye temperature: Fig. 1.

References:

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- 71T Traylor, J. G., Smith, H. G., Nicklow, R. M., Wilkinson, M. K.: Phys. Rev. B3 (1971) 3457.
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- 79R Rimai, D. S., Dunn, M. A., Jamieson, J. C., Manghnani, M. H.: Phys. Rev. B19 (1979) 3215.

Fig. 1.

TiO₂. Debye temperature vs. temperature. Solid line: calculated with shell model. Experimental points from heat capacity, 0 to 20 K from [69S], 20 to 300 K from [71T].

